

US EPA ARCHIVE DOCUMENT



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## **Report of Analysis**

### **Fluorochemical Characterization of Aqueous Samples**

**Project Name: P0005113**

**MPI Research Laboratory Report No. L0018926, L0018927, L0018958,  
L0019129**

**Initial Report Date: 11/10/09**

**Revision Report Date: 11/23/09**

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#### ***Testing Laboratory***

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3058 Research Drive  
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#### ***Requester***

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2809 West Mall Drive  
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## Summary of Fluorochemical Residues in Water Samples

Sample ID: Sinking Creek Sample 1

Date Analyzed: 10/10/2009

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	0.0110 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

<sup>1</sup> The low Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

Sample ID: Sinking Creek Sample 1 Duplicate

Date Analyzed: 10/10/2009

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

<sup>1</sup> The low Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Turkey Creek Sample 2

**Date Analyzed:** 10/14/2009

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.010	0.010
PFOS- Perfluorooctanesulfonate	< 0.025 <sup>1,2,3</sup>	0.025
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

<sup>1</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>2</sup> The low Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>3</sup> The High Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Turkey Creek Sample 2 Duplicate

**Date Analyzed:** 10/14/2009

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.010	0.010
PFOS- Perfluorooctanesulfonate	< 0.025 <sup>1,2,3</sup>	0.025
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

<sup>1</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>2</sup> The low Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>3</sup> The high Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.



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## Analytical Report

### Summary of Fluorochemical Residues in Water Samples

Sample ID: Trip Blank

Date Analyzed: 10/10/2009

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010	0.010

<sup>1</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

## Summary of Fluorochemical Residues in Water Samples

Sample ID: Sample #1 Horton Springs

Date Analyzed: 09/18/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.





## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Sample #1 Duplicate Horton Springs

**Date Analyzed:** 09/18/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.



## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Sample #2 Lawson & Newby Wells

**Date Analyzed:** 09/18/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

Sample ID: Sample #2 Lawson & Newby Wells Duplicate

Date Analyzed: 09/18/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Sample #3 Swan Creek Community Well

**Date Analyzed:** 09/18/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

Sample ID: Sample #3 Swan Creek Community Well Duplicate

Date Analyzed: 09/18/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

## Summary of Fluorochemical Residues in Water Samples

Sample ID: Trip Blank

Date Analyzed: 09/19/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010	0.010

\* Analyzed for PFOS on 10/09/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Finished Water Sample 1

**Date Analyzed:** 09/19/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	0.0102 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/09-10/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.



## Summary of Fluorochemical Residues in Water Samples

**Sample ID:** Finished Water Sample 1 Duplicate

**Date Analyzed:** 09/19/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010 <sup>3</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/10/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.





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## Summary of Fluorochemical Residues in Water Samples

Sample ID: Trip Blank

Date Analyzed: 09/19/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	< 0.025 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	< 0.010	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010	0.010

\* Analyzed for PFOS on 10/10/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

## Summary of Fluorochemical Residues in Water Samples

Sample ID: WTP Sample 1

Date Analyzed: 09/19/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	0.0317 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	0.0208 <sup>3,6,7</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/12/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>6</sup> This individual sample was prepared and run again on 10/12/2009 after being reanalyzed for PFOS on 10/09/2009 because it was inadvertently skipped during the addition of internal standard to the samples.

<sup>7</sup> Outside the QC acceptance criteria of <20% relative percent difference (RPD) of duplicate samples

## Summary of Fluorochemical Residues in Water Samples

Sample ID: WTP Sample 1 Duplicate

Date Analyzed: 09/19/2009\*

Analyte	Result (ng/mL)	LOQ (ng/mL)
C8 Acid- Perfluorooctanoic Acid	0.0262 <sup>1,2</sup>	0.025
PFOS- Perfluorooctanesulfonate	0.0155 <sup>3,6</sup>	0.010
FOSA- Perfluorooctane sulfonamide	< 0.010 <sup>4,5</sup>	0.010

\* Analyzed for PFOS on 10/10/2009

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The high Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>6</sup> Outside the QC acceptance criteria of <20% relative percent difference (RPD) of duplicate samples

## Summary of Fluorochemical Residues in Water Samples by LC/MS/MS

Sample ID	PFOA Perfluorooctanoic Acid	PFOS Perfluorooctanesulfonate	FOSA Perfluorooctanesulphonamide
	Analyte Found (ng/mL)	Analyte Found (ng/mL)	Analyte Found (ng/mL)
Sample #1 Horton Springs	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #1 Duplicate Horton Springs	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #2 Lawson & Newby Wells	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #2 Lawson & Newby Wells Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #3 Swan Creek Community Well	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #3 Swan Creek Community Well Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Trip Blank	< 0.025 <sup>1,2</sup>	< 0.010	< 0.010
Finished Water Sample 1	< 0.025 <sup>1,2</sup>	0.0102 <sup>3</sup>	< 0.010 <sup>4</sup>
Finished Water Sample 1 Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Trip Blank	< 0.025 <sup>1,2</sup>	< 0.010	< 0.010
WTP Sample 1	0.0317 <sup>1,2</sup>	0.0208 <sup>3,6,7</sup>	< 0.010 <sup>4</sup>
WTP Sample 1 Duplicate	0.0262 <sup>1,2</sup>	0.0155 <sup>3,7</sup>	< 0.010 <sup>4</sup>
Sinking Creek Sample 1	< 0.025 <sup>2,5</sup>	0.0110 <sup>3</sup>	< 0.010 <sup>4</sup>
Sinking Creek Sample 1 Duplicate	< 0.025 <sup>2,5</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Turkey Creek Sample 2	< 0.010	< 0.025 <sup>2,5,8</sup>	< 0.010 <sup>4</sup>
Turkey Creek Sample 2 Duplicate	< 0.010	< 0.025 <sup>2,5,8</sup>	< 0.010 <sup>4</sup>
Trip Blank	< 0.025 <sup>2</sup>	< 0.010	< 0.010

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The High and Low Field Matrix Spike recovery were outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>6</sup> This individual sample was prepared and run again on 10/12/2009 after being reanalyzed for PFOS on 10/09/2009 because it was inadvertently skipped during the addition of internal standard to the samples.

<sup>7</sup> Outside the QC acceptance criteria of <20% relative percent difference (RPD) of duplicate samples

<sup>8</sup> The High Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.



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## Facsimile

To           ██████████ EPA Region 4           Page 1  
Fax           ██████████            
Subject Summary of Municipal Sample Results  
  
From Tracey Hall  
Date November 24, 2009

With everyone unavailable because of the holidays, I will have to wait until Monday to deliver the full MPI lab report. I have attached the summary page of the municipal sample results. None of the results for PFOA and PFOS were above the PHA. Below is the correlation between samples and utility company.

- Decatur Utilities (Finished Water Sample 1);
- Limestone County Water and Sewer Authority (Sample #1 Horton Springs and Sample #2 Lawson & Newby Wells);
- Swan Creek Community (Sample #3 Swan Creek Community);
- City of Moulton (Sinking Creek Sample 1 and Turkey Creek Sample 2); and
- West Morgan - East Lawrence Water Authority (WTP Sample1).

Please let me know if you need anything before Monday, feel free to give me a call (404-965-9695).

Sincerely,

Tracey Hall  
tracey.hall@aecom.com

To enhance and sustain the world's built, natural and social environments

This fax is a confidential communication intended for the individual or entity named above. If the reader of this message is not the intended recipient, please delete and note that dissemination, distribution, or copying of this communication is prohibited.  
Thank You  
Document2

Summary of Fluorochemical Residues in Water Samples by LC/MS/MS

Sample ID	PFOA Perfluorooctanoic Acid	PFOS Perfluorooctanesulfonate	FOSA Perfluorooctanesulphonamide
	Analyte Found (ng/mL)	Analyte Found (ng/mL)	Analyte Found (ng/mL)
Sample #1 Horton Springs	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #1 Duplicate Horton Springs	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #2 Lawson & Newby Wells	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #2 Lawson & Newby Wells Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #3 Swan Creek Community Well	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Sample #3 Swan Creek Community Well Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Trip Blank	< 0.025 <sup>1,2</sup>	< 0.010	< 0.010
Finished Water Sample 1	< 0.025 <sup>1,2</sup>	0.0102 <sup>1</sup>	< 0.010 <sup>4</sup>
Finished Water Sample 1 Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Trip Blank	< 0.025 <sup>1,2</sup>	< 0.010	< 0.010
WTP Sample 1	0.0317 <sup>1,2</sup>	0.0208 <sup>1,4,7</sup>	< 0.010 <sup>4</sup>
WTP Sample 1 Duplicate	0.0262 <sup>1,2</sup>	0.0155 <sup>1,7</sup>	< 0.010 <sup>4</sup>
Sinking Creek Sample 1	< 0.025 <sup>1,2</sup>	0.0110 <sup>3</sup>	< 0.010 <sup>4</sup>
Sinking Creek Sample 1 Duplicate	< 0.025 <sup>1,2</sup>	< 0.010 <sup>3</sup>	< 0.010 <sup>4</sup>
Turkey Creek Sample 2	< 0.010	< 0.025 <sup>1,2,3,4</sup>	< 0.010 <sup>4</sup>
Turkey Creek Sample 2 Duplicate	< 0.010	< 0.025 <sup>1,2,3,4</sup>	< 0.010 <sup>4</sup>
Trip Blank	< 0.025 <sup>3</sup>	< 0.010	< 0.010

= ppb

<sup>1</sup> The second and third injections of the LLOQ CCV standard (0.005 ng/mL) were outside the acceptance criteria of 70-130%, but were disregarded because the LLOQ calibration standard was excluded from the calibration curve (see Note 2).

<sup>2</sup> The lowest calibration standard (0.005 ng/mL) was excluded from the calculation of the calibration curve because the average peak area of the method blanks was greater than 50% of the standard's peak area, resulting in an increased LOQ.

<sup>3</sup> The High Field Matrix recovery was outside the QC acceptance criteria of 50-150%. The Low Field Matrix recovery was within the acceptance criteria of 50-150% and the spiking concentration is within the Exhibit C criteria of 0.5 to 10 times endogenous sample levels, this data is considered reportable.

<sup>4</sup> The High and Low Field Matrix Spike recovery were outside the QC acceptance criteria of 50-150%, therefore the data is considered not reportable.

<sup>5</sup> The low Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.

<sup>6</sup> This individual sample was prepared and run again on 10/12/2009 after being reanalyzed for PFOS on 10/09/2009 because it was inadvertently skipped during the addition of internal standard to the samples.

<sup>7</sup> Outside the QC acceptance criteria of <20% relative percent difference (RPD) of duplicate samples

<sup>8</sup> The High Field Matrix Spike recovery was outside the acceptance criteria of 70-130%.